

The Dairy.

BREEDING OF THE DAIRY HERD.

BY A. M. STEVENS.

[Address delivered before the Washington State Dairyman's Convention, held April 9 and 10 at Spokane.]

[Continued From Last Week.]

Now suppose they are kept in the dairy for six years and then both sold in the shambles. The general purpose cow that has been bred to put a dollar's worth of feed in two places at the same time would have to her credit 335 pounds of cow beef over the special bred butter cow, worth from 2 to 3 cents per pound, against which would stand the excess of cost for keep of \$9.68 per annum for six years, equal to \$59.14; and the special bred butter cow would have to her credit 83 pounds of butter fat per annum over her general purpose rival for six years, a total of 493 pounds, which at present prices, 22 cents per pound, equals \$109.56 as a set-off against 305 pounds of cow beef that has cost \$59 and is worth probably 6. Well, but there are her big bull calves—what about them? Are they worth the \$59 minus the 335 pounds of cow beef that stands charged to the beef and butter cow for excess of feed? Suppose we conclude that they are, and balance that account—then the special bred butter cow has a surplus credit over her competitor of \$109.56 for the 483 pounds of butter fat, besides any calves she may have raised, which are worth as much or more for dairy purposes than the others are for beef. At the Columbian dairy exposition, notwithstanding the fact that the cows were debited or credited at 4½¢ per pound for loss or gain of live weight, so strong was the habit fixed of doing one thing well, that the special bred butter cows came off easy winners, producing butter for 3 cents per pound less cost than their general purpose competitors. There is another item of expense in the production of butter fat: that is, delivering the milk to the creamery. On inquiry I learn that it costs from 5 to 12½ cents per 100 pounds to haul milk to the creamery in different parts of the state.

To illustrate: Take the general purpose cow Dido, whose milk contains 3.08 lbs. butter fat per 100 lbs. of milk, and where it costs 11 cents per 100 lbs. to deliver the milk to the creamery, it will amount to 3.57 cents per pound of butter

fat; and as the Jersey cow Dora's milk contains 5.42 lbs. fat per 100 lbs. milk, it will only cost at the same rate a shade over 2 cents per lb. of fat to deliver it.

Again, the cost of butter may be affected by the ration of maintenance. It has been shown by Prof. Wolff that it requires .7 of a lb. of digestible protein, 8 lbs. carbohydrates, and .15 of a lb. of fat to maintain a cow weighing 1,000 lbs. 24 hours in a condition of rest without gain or loss; a 1200-lb. cow would require 12-10 of this amount, while a 900-lb. cow would only require 9-10 of the same amount. This corroborates the second proposition taught by the Minnesota experiments—that we can get no return from food consumed until the ration of maintenance has been supplied. One of the most important things in the foundation of the dairy herd is the man; and the man is largely what he is at birth, modified somewhat by environment. Some of his qualifications are a love for home and family, love for domestic animals, kindness, patience, perseverance. If it were buying the herd of dairy cows, the problem would be simplified; then it would only be a matter of selection and paying the price—if we had the money.

The first law in breeding is that like produces like, or the likeness of an ancestor; and in selecting cows for foundation stock for the herd they should possess some of the characteristics sought to be imposed. In making selections the Babcock tester and a scale to weigh the milk are of prime importance, and all unprofitable cows should be turned over to the butcher.

In the dairy cow there are some essentials we should strive to get in selection or breeding. Among which is a strong mouth, a heavy jaw, a large brain, a prominent, lively eye, large digestive organs, large navel development, a good udder, and a prominent backbone. If she has these she will have a mill to grind the feed, nerve force to supply energy, constitutional vigor to sustain active or staying qualities, with digestive capacity to convert a large amount of food into dairy products. In general appearance she should be wedge-shaped. Dr. Mitchell says egg-shaped. She should be long bodied, deep through the middle, with thin neck, light shoulders, prominent hip bones, high pelvic arch, thin thighs with high arch, giving plenty of room for a good udder, which should extend

well forward and well out and high behind, giving long and broad surface attachment to the body, with good-sized teats, well placed; legs should be short and clean; ample heart and lung room. Now when you have weighed the milk and tested it for fat, remember that you only have two items of information, important though they may be. If your cow has dairy form and is not giving a profitable amount of dairy product, remember that heredity determines function, and function determines form. So if the cow in question has dairy form she has dairy ancestors behind her, remote though it be, and as she is on trial for life, you can afford to be just. First ascertain if she is fed proper food to her full capacity of digestion, or whether she is only fed enough to sustain life, or if she has comfortable quarters, or is stabled in a building in which the cracks between the boards perform the double duty of furnishing light and ventilation; or if she is forced to consume her food as fuel to warm ice water as she shivers in the wind on the lee side of a wire fence. Or perhaps she is immature and nature is asserting itself and she is making a rapid growth; or if the product is not large she may have staying qualities that will pull her through at the end of the year. But if the cow has a short, thick neck, with heavy, meaty shoulders, full and round in the crop, broad, level back, hip bones smoothly covered with fat, thigh and buttocks full and well meated down the thigh, top and bottom lines level—it is a case of big beef and little butter; or the beef and butter is so divided that neither is profitable, and hardly needs the Babcock. It should be remembered that the dairy cow is an artificial animal, her nervous temperament highly developed, which stimulates effort in the production of milk for the sustenance of her young. Milk giving being a function of motherhood, the man who can induce the cow to transfer her affections from her calf to himself is sure of a large reward for care and kindness shown her, and is on the road to success in dairying.

[Concluded Next Week.]

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